

30(1)

SOV/25-59-11-24/38

AUTHOR: Korolevskiy, Yu.P., Engineer

TITLE: Ultrasound Looks for Fish

PERIODICAL: Nauka i zhizn', 1959, Nr 11, p 67 (USSR)

ABSTRACT: The "Okean" trawler put into service last year is equipped with a search apparatus for target catching of fish. A hydrolocator of horizontal tracing and an echo sounding gear are the main fish sweeping devices of the trawler. The principle of their action is the same. The ultrasound signal sent into the water is reflected by the object met and registered on the ship. Small organisms in the water reflect the signal better the higher the frequency is and, consequently, the shorter the radiation waves. There are 4 photographs and 1 drawing.

Card 1/1

KOROLEVSKIY, Yu.F., Auth.

Principles governing the establishing of norms for permissible  
postrepair dimensions (wear) of parts and clearances. Substroenia  
31 no.5:51-56 My '65. (MIRA 18:8)

KOROLEVTSEV, I.

USSR/Electronics - Receivers  
Neva-52

Jul 52

"The Neva-52," I. Korolevtsev, D. Faygenbaum

"Radio" No 7, pp 32-35

The Neva has been produced practically unchanged since 1947. Since mid-1952, a modernized Neva-52 receiver has been produced by the Metal Parts Plant of the Leningrad Div of Local Ind. The receiver has long- and medium-wave bands and the following short-wave bands: 11.4-12 Mc, 9.1-10 Mc, and 3.95-7.5 Mc.

22676

KOROLEVTSEV, I.

PA 195T80

USSR/Radio - Receivers

Jul 51

"Metalloizdeliy" Plant

"The Neva Receiver," I. Korolevtsev, D. Faygenbaum

"Radio" No 7, pp 53-55

Since Dec 49, the Leningrad "Metalloizdeliy" Plant has been producing Neva radio receivers. Previously, these receivers were produced by a plant of the Min of Communications Equipment Ind. Describes changes made in the receiver by the "Metalloizdeliy" Plant.

195T80

AUTHOR: Korolevtsev, V. M., Graduate Student SOV/154-58-1-5/22

TITLE: New Devices for Precise Base Measurements by Means of Supporting Wires (Novyye pribory dlya tochnykh bazisnykh izmereniy podvesnymi provolokami)

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Geodetsiya i aerofotos"yemka, 1958, Nr 1, pp 41-50 (USSR)

ABSTRACT: The majority of those devices that belong to the complete set of instruments for precise base measurements are complicated in their structure and difficult to move and to handle. The goal of many designers was to modernize these instruments. The author of the paper under review reports on some measuring devices designed by him and on the simplification of the entire apparatus. The complete set of instruments proposed by him, which considerably simplifies the entire measuring process, has already undergone a preliminary test. This showed that the use of this apparatus simplifies, standardizes, mechanizes and automatizes the process. If precision is increased, also higher efficiency can be achieved. The former clumsiness of the apparatus, as well as the number of devices were reduced. The complete measuring set was made easily

Card 1/2

New Devices for Precise Base Measurements by Means of Supporting Wires

SCW/154-58-1-5/22

transportable by considerably reducing its total weight.  
There are 12 figures.

ASSOCIATION: Voronezhskiy sel'skokhozyaystvennyy institut  
(Voronezh Institute of Agriculture)

Card 2/2

Case 4/3

KOROLEVTSEV, V. M., aspirant

Using the method of short-base parallaxic traversing with a  
vertical substance bar. Trudy MIIGAIK no.39:63-81 '60.  
(MIRA 13:8)

1. Kafedra vyshey geodesii Moskovskogo instituta inzhenerov  
geodesii, aerofotos'yenki i kartografii.  
(Traverses (Surveying))



S/270/63/000/001/004/024  
A001/A101

AUTHOR: Korolevtsev, V. M.

TITLE: The K-level instrument with a stand and rods of a new design

PERIODICAL: Referativnyy zhurnal, Geodeziya, no. 1, 1963, 21, abstract 1.52.144  
("Nauchn. tr. Voronezhsk. inzh.-stroit. in-t", 1962, no. 9,  
255 - 267)

TEXT: The author describes a dumpy level instrument of the HF - K (NG-K) type with a contact level intended for determining elevations between sighting points while conducting leveling of sides in base and polygonometric measurements. The principal technical data of the leveling instrument are as follows: magnification of the sighting telescope is 31 diameter, sight field of the telescope is 1°, equivalent focal length of the objective is 314 mm, the least sighting distance is 3 m, coefficient of the range finder is 100, the value of one division of levels: cylindrical - 17-25", round - 7-15" per 2 mm. The level instrument weighs 2.1 kg, the stand weighs 3.5 kg. Specific features of the NG-K type level instrument are the presence of a special mechanism with an

Card 1/3

The K-level instrument with a stand and...

S/270/63/000/001/004/024  
A001/A101

elevation screw for rapid and precision mounting of the telescope sighting axis into horizontal position and the absence of a three-screw base. The stand is made of Duraluminum. Its head represents a cylinder with three cleats for adjoining legs. A chuck is put into the hollow part of the head, and this chuck holds a bush with the lower part of the level instrument axle. Each leg of the level instrument consists of two Duraluminum tubes ending, in their lower part, with sockets and, in their upper part, with telescopic regulating devices by means of which the bubble of the round level is set at the zero-point. Due to the presence of a regulating device, the horizontal level of the instrument can be changed by 100 - 120 mm without changing the position of the stand legs. Investigations have shown that labor efficiency rises by 30% in using NG-K level instruments; the r.m.s. error of elevation determination is equal to 1 mm. Two designs of one-side two-scale rods are proposed for leveling sighting points; transparent and suspended. The former type, 1.5 m long, is manufactured of organic glass or stalinit. One of its scales has black 20-mm divisions, the other is divided into 11-mm divisions of red color. The suspended rod consists of two frames one of which is located within the other. The width of the outer frame is 100 mm, the length is 1.60 m; the corresponding dimensions of the

Card 2/3

The K-level instrument with a stand and...

S/270/63/000/001/004/024  
A001/A101

inner frame are 70 mm and 1.53 m. The rod weighs 2 kg. Both frames are connected by means of hinges. A thin plate of organic glass is placed in the grooves of the inner frame; it has the same divisions as the first rod.

V. Sinyagina

[Abstracter's note: Complete translation]

Card 3/3

PHASE I BOOK EXPLOITATION

80V/5840

Koroli, Ol'ga Yevgen'yevna, Docent, Candidate of Technical Sciences

Teoreticheskaya mekhanika trayektorii iskusstvennykh sputnikov Zemli;  
pis'mennyye lektsii (Theoretical Mechanics of the Trajectory of Arti-  
ficial Earth Satellites; Correspondence Courses) Leningrad, 1960. 28 p.  
Errata slip inserted. 1000 copies printed.

Sponsoring Agency: Ministerstvo vysshego i srednego spetsial'nogo obrazovaniya  
RSFSR. Severo-zapadnyy zaachnyy politekhnicheskiy institut.

Ed.: T. Gapeyeva.

PURPOSE: This textbook is intended for students in all divisions and depart-  
ments of the Severo-zapadnyy zaachnyy politekhnicheskiy institut (North-  
western Polytechnic Correspondence Institute).

COVERAGE: The book discusses certain problems of the theory of motion of arti-  
ficial Earth satellites. Only the Earth's gravitation is taken into account.  
Basic information on the motion of a free material point subjected to the  
Newtonian gravity and on the trajectories of artificial Earth satellites is

Card 1/3

Theoretical Mechanics (Cont.)

SOV/5840

6. Determination of parameters of an elliptic trajectory	18
7. Period of revolution	22
8. Relationship between the orbital parameters at the beginning of motion and the lifetime of the artificial Earth satellite	24
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AVAILABLE: Library of Congress (TL1075.K6)

Card 3/3

AC/6mm/bc  
12-15-61

16(1); 24(6)

PHASE I BOOK EXPLOITATION

SOV/1909

Koroli, O. Ye., Docent, Candidate of Technical Sciences

Pryamolineynoye kolebatel'noye dvizheniye material'noy tochki; pis'mennyye lektsii  
(Rectilinear Vibrational Motion of a Particle; Correspondence Lectures)  
Leningrad, 1958. 61 p. Errata slip inserted. 1,000 copies printed.

Sponsoring Agency: Severo-zapadnyy zaochnyy politekhnicheskiiy institut.

Ed.: L. Vol'pe.

PURPOSE: This book is intended for home study by mechanical and structural engineers who are engaged in the design of machines or structures in which dynamic stresses caused by vibrations are present.

COVERAGE: The book contains a short presentation of the theory of vibrations, which gives the basic concepts and formulas of free and forced rectilinear vibrational motion of a particle. In connection with the presentation of the theory of forced vibrations of a particle acted upon by harmonic force,

Card 1/4

Rectilinear Vibrational Motion (Cont.)

SOV/1909

the problem of resonance and the danger to machine parts and structures exposed to the effect of resonance are studied. Conditions necessary for the safe design of machines subject to vibrations are described. The theory is illustrated by examples. No personalities are mentioned. There are no references.

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Card 2/4

Rectilinear Vibrational Motion (Cont.)

80V/1909

Questions for Self-testing

56

Problems on Forced Vibrations Taking Into Account the Resisting Force

56

AVAILABLE: Library of Congress (QA935.K835)

Card 4/4

IK/mas  
8-20-59

KOROLI, Ol'ga Yevgen'yevna, dotsent, kand.tekhn.nauk; GAPEYEVA, T., red.

[Theoretical mechanics; trajectories of artificial earth satellites;  
correspondence course] Teoreticheskaya mekhanika; traektorii  
iskusstvennykh sputnikov Zemli; pis'mennyye lektsii. Leningrad,  
Severo-zapadnyi zaachnyi politekhn.in-t, 1960. 28 p.

(MIRA 14:6)

(Artificial satellites)



KOROLIEWA, N.; MURAZJAN, A.

Medical care of industrial workers. Zdrowie pub., Warszawa  
no.6:425-429 Nov-Dec 54.

1. Z Oddzialu opieki nad robotnikami przemyslawymi Ministerstwa  
zdrowia ZSRR - Naczelnik oddzialu N.Koroliewa  
(INDUSTRIAL HYGIENE  
in Russia)

ANDREJEVIC, Mihailo; KOROLIJA, Petar; STANKOVIC, Sotir

Contribution to the study on clinical aspects of primary carcinoma of the gallbladder. Srpski arh. celok. lek. 90 no.3:229-235 Mr '62.

1. Interno odeljenje Gradske bolnice u Beogradu Sef: prof. dr Mihailo Andrejevic.  
(GALLBLADDER neopl)

5

KOROLJKA, Petar; STANKOVIC, Sotir; ANDREJEVIC, Mihailo

Clinical picture and biological changes in primary liver cancer.  
Srpski ark. celok. lek. 91 no.12:1165-1173 D '63.

1. Interno odeljenje Gradske bolnice u Beogradu (Sef: prof. dr.  
Mihailo Andrejevic).

ANDREJEVIC, Mihailo; KOROLIJA, Petar; STAMENKOVIC, Jelena

Value of Ascoli's and Jirgl's test in the differential diagnosis of malignant and benign obstructive jaundice. Srpski arh. celok. lek. 92 no.4:401-406 Ap '64

1. Interna nastavna baza Medicinskog fakulteta Gradska bolnica u Beogradu (Upravnik: prof. dr. Mihailo Andrejevic) i laboratorijski odsek Gradske bolnice u Beogradu (Nacelnik: dr.R.Petrovic).

ANDREJEVIC, Mihailo; KOROLIJA, Petar

A case of acute thrombosis of the axillary artery of allergic etiology. Srpski arh. celok. lek. 92 no.7:793-795 JI-Ag '64

1. Interno odeljenje Gradske bolnice u Beogradu (Upravnik: prof. dr. Mihailo Andrejevic).

YUGOSLAVIA

ANDREJEVIC, Mihailo, Dr, prof, STANKOVIC, Sotir, Dr, STEVANOVIC, Milan, Dr, KOROLIJAJA, Petar, Dr; Department of Internal Medicine of the City Hospital, Belgrade (Interno odeljenje Gradske bolnice u Beogradu) (Head: ANDREJEVIC, Mihailo, Dr, prof), Belgrade.

"Influence of Bismuth Therapy on the Acidity and Pepsin of Ulcer Patients"

Belgrade, Medicinski Glasnik, Vol 19, No 11-12, Nov-Dec 1965, pp 316-318

Abstract: Bismuth-subnitrate causes subjective improvement of difficulties in 85,5% of cases. The value of acidity after therapy decreases in 2/3 of the patients and pepsin in one-half of them. This difference is the result of the weaker effect of bismuth therapy on pepsin; on the creation of proteolysis. With regard to the eventual effect of bismuth-subnitrate, the administration of the bismuth-subcarbonicum should be decided upon and therapy should be extended. Effect of bismuth treatment on anacid ulcers is shown more in the absence of the irritation factor of food than in connection with pepsin. No references.

Novel V. V.

BESPAL'KO, I.; KOROLIKHIN, V.

In the educational institutions of the Ministry. Avt.transp.33  
no.8:30 Ag'55. (MIRA 8:12)  
(Chernovitsy Province--Automobile drivers)

**VOLKOV, S.V.; KOROLIKHIN, V.V.**

Dissolving renal calculi. The possibility of using trilon B as a chemical solvent; experimental study. Urologiia no.5:38-43 '62.

(MIRA 15:12)

1. Iz Gor'kovskoy gorodskoy klinicheskoy bol'nitsy No.5 (glavnyy vrach N.L. Pyatnitskiy).

(CALCULI, URINARY) (ACETIC ACID)



KOROLIKOV, A.

29848

Uchyet zatrat na tyekhnichyeskiye obsluzhivaniy i ryemont kazhdogo avtomobilya.  
Automobil; 1949, s. 12

SO: LETOPIS' NO. 40

KOROLINSKAYA, V. N., Cand of Med Sci -- (diss) "Hymen Lepidosis and Lamblia's During Chronic Dysentery in Children, " Moscow, 1959, 14 pp (Academy of Medical Sciences, USSR) (KL, 7-60, 110)

ANDREJEVIC, Mihajlo, dr., prof.; STANKOVIC, Sotir; KOROLIJA, Petar;  
MADIC, Radmila

Contribution to the clinical picture of pleural epithelioma. Srpski  
arh. celok. lek. 89 no.1:5-11 Ja '61.

1. Interno odeljenje Gradske bolnice u Beogradu. Sef: prof. dr  
Mihajlo Andrejevic.

(PLEURA neopl) (CARCINOMA BRONCHOGENIC case reports)

S/058/63/000/003/028/104  
A062/A101

AUTHORS: Kaplan, S. A., Koval'chuk, V. G., Korolishin, V. M.  
TITLE: Coefficients of electric conductivity and diffusion in relativistic one-component plasma

PERIODICAL: Referativnyy zhurnal, Fizika, no. 3, 1963, 19, abstract 30113  
("Visnyk L'vivs'k. un-tu. Ser. fiz.", 1962, no. 1(8), 79 - 82, Ukrainian)

TEXT: A method is given for computing the coefficients of diffusion and electric conductivity in a relativistic one-component plasma in the presence of electric and magnetic fields. Expressions for the components of the "four-dimensional velocity" of the particles are averaged, for the cases of parallel and perpendicular electric and magnetic fields, by means of the distribution function in the zero approximation. Transfer coefficient is obtained in the presence of an electric field and the gradient of concentration of the particle. For a relativistic plasma, at a power exponent of the particle spectrum  $\gamma = 2$ , the diffusion coefficient is inversely proportional to the intensity of the magnetic field.

[Abstracter's note: Complete translation]

Yu. Mordvinov

Card 1/1

MYZENKO, D.K., inzh.; POMAZUYEV, V.M., inzh.; MIRONCHIK, M.S., inzh.;  
KOROL'KEVICH, L.Yu., inzh.

Purification of blast furnace gas without electrostatic filters.  
Stal' 20 no. 7:667-670 J1 '60. (MIRA 14:5)

.1. Chelyabinskiy metallurgicheskiy zavod.  
(Gases—Purification)

L 3982-66

ACCESSION NR: AP5022361

UR/0115/65/000/007/0058/0060  
681.118.2

AUTHOR: Kirsa, V. I.; Korol'kevich, V. I.

TITLE: A transistorized electronic tachometer

SOURCE: Izmeritel'naya tekhnika, no. 7, 1965, 58-60

TOPIC TAGS: tachometer, transistorized circuit, electronic measurement

ABSTRACT: The authors describe an electronic transistorized tachometer developed at the Laboratory of Measuring Technology, Ukrainian Affiliate of the State All-Union Technological Scientific Research Institute for the Repair and Utilization of Tractors and Agricultural Machinery. The instrument is designed for measuring the number of revolutions of the camshaft on a fuel pump. This tachometer has five measurement ranges:  $0-50\pi$ ;  $0-16.7\pi$ ;  $16.7\pi-25\pi$ ;  $25\pi-33.3\pi$  and  $33.3\pi-50\pi$  radians per second. The first range is a scanning range for deciding the limits of measurement required, after which the instrument is set to the appropriate one of the other four ranges for more accurate determination of the number of revolutions. A schematic diagram of the instrument is given and the principles of operation and design

Card 1/2

L 3982-66

ACCESSION NR: AP5022361

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factors are discussed briefly. The entire instrument together with the poser supply is mounted in a metal case 220 x 150 x 90 mm in size. Zero set, bridge balance control, range switch, power switch and meter are mounted on the front panel of the device. The instrument is connected to the pickup by a flexible cable. This arrangement makes it possible to take readings in hard to reach places. Orig. art. has: 1 figure.

ASSOCIATION: none

SUBMITTED: 00

ENCL: 00

SUB CODE: PR, IE

NO REF SOV: 000

OTHER: 000

PC

Card 2/2

KOROLKIEWICZ, Z.; TEUCHMANN, J.

Effect on the so-called central and peripheral fever. Studies on the effect of physostigmine, largactil and reserpine. Acta physiol.polon. 11 no.5/6:781-782 '60.

1. Z Zakladu Farmakologii A.M. w Gdansk, Kierownik: prof.dr J.K. Teuchmann.

(FEVER exper)

(PHYSOSTIGMINE pharmacol)

(CHLORPROMAZINE pharmacol)

(RESERPINE pharmacol)



TEUCHMANN, Jan Karol; KOROLKIEWICZ, Zbigniew; WIGLUSZ, Zdzisława

Comparative pharmacodynamic studies on long-acting sulfamethoxy-  
pyridazine-sulfonamide. Polski tygod.lek. 15 no.42:1593-1598  
17 0 '60.

1. Z Zakładu Farmakologii A.M. w Gdansk; kierownik: prof.dr  
med. J.K. Teuchmann.

(SULFAMETHOXYPYRIDAZINE pharmacol)

TEUCHMANN, Jan Karol; KOROLKIEWICZ, Zbigniew; KUCHCINSKI, Wladyslaw

Comparative studies on the properties of sulfamethoxypyridazine  
and other prolonged action sulfonamides. Polski tygod.lek. 15 no.51:  
1958-1962 19 D '60.

1. Z Zakladu Farmakologii A.M. w Gdansk; kierownik: prof. dr med.  
J.K. Teuchmann.

(SULFAMETHOXYPYRIDAZINE pharmacol)

KOROLKIEWICZ, Zbigniew; TEUCHMANN, Jan Karol

Studies on so-called central and peripheral fevers. Studies on the effect of physostigmine, largactil and reserpine. Acta physiol pol 12 no.2:219-229 '61.

1. Z Zakladu Farmakologii A.M. w Gdansk Kierownik: prof. dr J.K. Teuchmann.

(FEVER exper)	(PHYSOSTIGMINE pharmacol)
(CHLORPROMAZINE pharmacol)	(RESERPINE pharmacol)

KOROLKIEWICZ, Zbigniew  
SURNAME, Given Names

Country: Poland

Academic Degrees:

Affiliation:

Institute of Pharmacology of the Medical Academy (Zaklad  
Farmakologii, Akademia Medyczna), Gdansk; Director (Kierownik):  
Prof Dr Med J K Teuchmann

Source:

Krakow, Przegląd Lekarski, Vol XVII, Ser II, No 10, 1961,  
pp 370-373

Data:

"Experimental Investigations of the Mechanism of Action  
of Experimental Fever in Anaphylactic Shock."

Authors:

TEUCHMANN, Jan Karol, Prof Dr Med  
/KOROLKIEWICZ, Zbigniew [Academic Degrees not given]

670 981643

"APPROVED FOR RELEASE: 06/14/2000

CIA-RDP86-00513R000824820010-6

Country: Poland

Academic Degrees: [not given]

Department of Pharmacology of the Academy of Medicine (Zaklad  
Affiliation: Farmakologii Akademii Medycznej), Gdansk

Source:

Warsaw, Farmacja Polska, Vol XVII, No 18, 25 September 1961,  
pp 382-383

Data:

"Comparative Investigations of Certain Properties of  
Sulfonamides With Prolonged Action."

Authors:

TEUCHMANN, Jan Karol  
KOROLKIEWICZ, Zbigniew  
KUCHCINSKI, Wladyslaw  
WILGUSZ, Zdzislaw

TEUCHMAN, Jan Karol, prof.dr. med.; KOROLKIEWICZ, Zbigniew; KUHCINSKI,  
Wladyslaw; WILGUSZ, Zdzislaw

Comparative research on certain properties of sulphonamides with  
extended effect. Farmacja Pol 16 no.18:382-383 S '61.

1. Zaklad Farmakologii, Akademia Medyczna, Gdansk. Kierownik:  
prof.dr.med J.K. Teuchmann.

KOROLKIEWICZ, Zbigniew

Studies on the mechanism of action of some drugs on the so-called peripheral and central fevers. Acta physiol. polon. 13 no.5:651-662 '62.

1. Z Zakladu Farmakologii AM w Gdansk Kierownik: prof. dr J.K. Teuchmann.

(FEVER)	(PYROGENS)	(EPINEPHRINE)	(RESERPINE)
(CHLORPROMAZINE)	(SODIUM SALICYLATE)	(NITROPHENOLS)	
(ANALGESICS AND ANTIPYRETICS)			

KOROLKO, Andrzej; GORNY, Dionizy

2 cases of paralysis of the respiratory center after the administration of palfium. Polski tygod.lek. 16 no.5:180-182 30 Ja '61.

1. Z I Kliniki Chorob Wewnętrznych A.M. w Lublinie; kierownik: prof.  
dr med. Mieczysław Kedra i z II Kliniki Chirurgicznej A.M. w Lublinie;  
kierownik: prof. dr med. Feliks Skubiszewski.  
(ANALGESICS AND ANTIPIRETICS toxicol)  
(RESPIRATION)

KEDRA, Mieczyslaw; KOROLKO, Andrzej

Behavior of Skibinski's circulatory-respiratory coefficient in pulmonary and cardiac diseases. Polski tygod. lek. 16 no.36:1383-1389 4 S '61.

1. Z I Kliniki Chorob Wewnętrznych A.M. w Lublinie; kierownik: prof. dr med. Mieczyslaw Kedra.

(LUNG DISEASES diag) (HEART DISEASES diag)



KOROLKO, Andrzej; SMAJKIEWICZ, Ludwik

A case of abscess of the anterior mediastinum following dental infection. Polski tygod. lek. 16 no.49:1899-1901 4 D '61.

1. Z I Kliniki Chorob Wewnętrznych A.M. w Lublinie; kierownik: prof  
dr med. Mieczysław Kedra i z Zakładu Radiologii A.M. w Lublinie;  
kierownik: z-ca prof. dr med. Kazimierz Skorzyński.  
(MEDIASTINUM dis) (ABSCESS etiol) (TEETH dis)

KOPOLKO, Andrzej; KOLZELIWSKI, Janusz

Primary megacosophagus. Pol. tyg. lek. 19 no.23:1286-1287  
17 S '64.

1. Z I Kliniki Chorob Wewnętrznych Akademii Medycznej w Lublinie  
(kierownik: prof. dr med. Mieczysław Kiedra) i ze Szpitala  
Wojskowego w Lublinie.

KOROL'KO S.A.

EVENTOV, I.M., kandidat tekhnicheskikh nauk; KOROL'KO, S.A., kandidat tekhnicheskikh nauk, retsenzent; RUSINOV, I.Ya., kandidat tekhnicheskikh nauk, retsenzent.

[Snowplows] Snegoochistiteli. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. i sudostroit. lit-ry, 1954. 142 p. (MLRA 7:9)  
(Snow plows)

KOROL'KO, V.

Spontaneous recovery of cattle from paratuberculous enteritis.  
Veterinariia 36 no.6:32 Je '59. (MIRA 12:10)

1. Glavnyy veterinarnyy vrach Khar'kovskogo sakhsveklotresta.  
(Cattle--Diseases and pests)

KOROL'KO, Ye.I., inzh.

Determining optimum prismatic tooth pitch in a bit rim. Trudy  
VNIIBT no.1:91-117 '58. (MIRA 11:12)  
(Boring)

GRISHIN, A.S., inzh.; KONSTANTINOV, L.P.; KOROL'KO, Ye.I.; EDEL'SHTAYN, Ye.I.;  
BYGEL'S, R.M.

Destruction of brittle bodies. Trudy VNIIBT no.1:131-133 '58.  
(MIRA 11:12)  
(Rocks)

KOROL'KOV, A.

Improve the accounting of stock movements in automotive transport  
organisations. Avt. transp. 35 no.5:8-9 My '57. (MLRA 10:6)  
(Transportation, Automotive--Accounting)

1. BAKLAYEV, Ya. P.; GUKHMAN, N. Ye.; KORZHINSKIY, D. S.; KOROL'KOV, A. A.;  
SERGIYEVSKIY, V. M.; USHAKOVA, M. V.; and CHERNYSHEV, V. F.
2. USSR (600)
4. Turinsk District - Copper Ores
7. Turinsk group of copper ore deposits in the Urals. (Abstract.) Izv.Glav.upr.geol.  
fon.no. 3, 1947.
9. Monthly Lists of Russian Accessions, Library of Congress, March 1953, Unclassified.



LIDER, V.A.; FERVAGO, V.A., otv.red.; MOKRUSHIN, K.V., red.; YERMAKOV, N.P., red.; KOROL'KOV, A.A., red.; KOZHEVNIKOV, K.Ye., red.; NECHAYEV, P.V., red.; POIARKOV, M.A., red.; FURKIN, A.V., red.; SOBOLEV, I.D., red.; TARKHANEYEV, B.F., red.

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Kabardian Horse

Results of crossbreeding of Kabardian horses with purebred saddle horses, Konevodstvo. No. 5, 1952.

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KOROL'KOV, A. G.

Horse Breeding

Production index according to periods of foaling in field conditions. Konevodstvo 22 No. 6, 1952.

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KALABUKHOV, F.V.; SEMIKIN, N.V.; SHUL'MAN, A.S.; BRAZOVSKAYA, T.I.;  
MIZINOV, V.N.; BASH, M.S.; BRONSHTEYN, L.A.; POLCHANINOV,  
P.V.; VERKHOVSKIY, I.A.; KOROL'KOV, A.I.; GERONIMUS, B.L.;  
STRYZHKOVA, N.I., red.; GALAKTIONOVA, Ye.N., tekhn. red.

[Principles of the economics of automotive transportation;  
for the aid of those studying the economics of automotive  
transportation] Osnovy ekonomiki avtomobil'nogo transporta;  
v pomoshch' izuchaiushchim ekonomiku avtomobil'nogo trans-  
porta. Moskva, Avtotransizdat, 1963. 357 p.

(MIRA 17:3)

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vodstva Moskovskogo avtomobil'no-dorozhnogo instituta (for  
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SO: U-5240, 17, Dec 53. (Istoria 'Zhurnal 'nykh Statey, No. 25, 1949).

... ... V. V. KOSOLINOV, L.V., ...  
referred

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Mashinostroenie, 1964. 179 p. (MIRA 1747)

CA  
Korol'kov, A. M.

PROCESSES AND PROPERTIES INDEX

The properties of nickel-chromium alloys and their manufacture. A. M. KOROL'KOV. *Isotonic Metal*, 1951, 1471-4. Alloys were drawn with a high elec. resistance and resistance to oxidation up to 1000°. The suitability of these alloys for the manuf. of wires and strips was also investigated. A no. of alloys on the market were also examd. Melts were made from purest materials available. The alloys prep'd. analyzed Ni 81-84, Cr 9-22, Fe 10-22 and Mn 1.7%. Other impurities were low. The loss of Cr was as high as 15-23%. All the alloys were satisfactorily cold-rolled into a 5 mm. strip or wire 2.0 mm. in diam. The wires were then annealed at 950-1000° and drawn to 2 mm. These were annealed again and drawn to 1.5 mm. Mech. properties and microstructures of the alloys are given. Tests showed that the elec. resistance, temp. coeff. and resistance to oxidation at high temps. render the alloys suitable for use in heating coils, the ternary Ni-Cr-Fe alloys being the best. B. N. DANILEV

AND S.L.A. METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND ORDER										PROCESS AND PROPERTIES INDEX										3RD AND 4TH ORDER									
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<p>*On the Equilibrium Diagram of the System Cobalt-Tungsten Carbide. A. M. Kuznetsov and A. M. Lavie (<i>Metallurg (Metallurgy)</i>, 1964, (2), 63-65).—[in Russian.] Alloys with 1-99% of tungsten carbide have been studied. The limit of solid solubility of tungsten carbide in cobalt is about 15%, and the eutectic contains 35% WC. Phase X containing about 60% WC is formed by a peritectic reaction.—N. A.</p>																													
<p>ASM-51A METALLURGICAL LITERATURE CLASSIFICATION</p>																													
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Korol'kov, A. M.

Processes and Properties Index

The influence of excess tungsten on Pobedit and substitution of nickel for cobalt. G. A. Merzhan, A. M. Korol'kov, M. M. Babich and L. P. Nevskaya. *Redkie Met.* 5, No. 3, 38-46(1936).—W-C alloys were prepd. with Co-W alloys contg. 0-25% W or Ni-W alloys contg. 0-42% W as binders. The addn. of W to the binder increased the hardness and improved the cutting properties. D. and strength increased up to about 10-15% W and then decreased. H. W. Rathmann

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

KOROL'KOV, A.M.

20

**The Effect of Original Grain-Size of Molybdenum Powders on the Properties of Welded Metal.** N. A. Agarkova and A. M. Korolkov (*Metallurgy (Metallurgiya)*, 1966, (12), 116-119).—[In Russian.] The rate of grain growth in molybdenum in welding depends on the original grain-size of the metal powder, the finer is the grain thereof the larger are the crystals that are formed at constant welding temperature.—N. A.

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

REGION SYMBOLS		SUBJECT SYMBOLS	
1ST AND 2ND ORDERS	3RD AND 4TH ORDERS	1ST AND 2ND ORDERS	3RD AND 4TH ORDERS
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1ST AND 2ND ORDERS																										PROCESSES AND PROPERTIES INDEX																									
KOROL'KOV, A.M.																																																			
<p>*Resistance of Aluminium-Silicon and Aluminium-Copper Alloys to Water  A. M. Korol'kov and E. M. Timokhina (Invest. Akad. Nauk S.S.S.R., 1948,  [TEKH.], (5/6), 68-70).—[In Russian.] Castings of aluminium 87-94,  silicon 13-6%, are less porous than those containing aluminium 91-93, copper  9-7%, and have better mechanical properties.</p> <p>Mba., Institute of Metallurgy Acad Sci  Mba., Ural Machinery Plant</p>																																																			
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<div style="display: flex; justify-content: space-between;"> <div> <p><b>KOROL'KOV, A.M.</b></p> <p><i>M</i></p> </div> <div> <p><b>1</b></p> <p><b>*The Time Factor in the Heat-Treatment of Cast Alloys of the Silumin Type.</b>  A. M. Korol'kov and N. V. Barishnikova (<i>Izvest. Akad. Nauk S.S.S.R.</i>, 1943, [ZhEN], (8), 57-61; <i>Brit. Ab.</i>, 1944, [B1], 39).—[In Russian.] Samples of the alloy (containing silicon 10-80, iron 0-64, manganese 0-40, magnesium 0-30%, remainder aluminium) were heated at <math>535 \pm 5^\circ \text{C.}</math> for <math>t_1</math> hr., quenched, and annealed at <math>175 \pm 5^\circ \text{C.}</math> for <math>t_2</math> hr. When <math>t_2</math> increased from 0 to 3, the ultimate tensile strength of the samples rose and their total elongation decreased. A change of <math>t_2</math> between 3 and 10 had no effect; after <math>t_2 \approx 20</math> the alloy weakened slightly. Variation of <math>t_1</math> between 0-5 and 12 had no effect on the mechanical properties of the annealed alloys. For very small samples <math>t_1 \approx 0-1</math> was sufficient. Samples heated in a salt bath did not differ from those heated in air. The larger <math>t_1</math> was, the larger were the silicon crystals in the alloy. When the annealed alloy was slowly heated (<math>1-2^\circ/\text{min.}</math>), it expanded irreversibly between <math>200^\circ</math> and <math>300^\circ \text{C.}</math>; the degree of expansion was the smaller the longer were <math>t_1</math> and <math>t_2</math>, but the effect of <math>t_1</math> was less distinct.</p> </div> <div> <p><b>18</b></p> </div> </div>																													
<p style="text-align: center;">Mbr., Lral Machinery Plant, Institute of Metallurgy Acad Sci USSR.</p>																													
<div style="display: flex; justify-content: space-between;"> <div> <p>ASH-5LA METALLURGICAL LITERATURE CLASSIFICATION</p> <p>63001 630119V</p> <p>63000 0 1</p> </div> <div> <p>63003 630119V</p> <p>63003 630119V</p> </div> <div> <p>63003 630119V</p> <p>63003 630119V</p> </div> </div>																													

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<p><i>KORDS'KOU, A.M.</i></p> <p><b>PROPERTIES AND PROPERTIES INDEX</b></p> <p>Estimation of the contraction of metals. A. M. Kord'skov. <i>Zashchita</i> Lab. 13, 66-70(1946) (in Russian). Measurements of the total linear contraction <math>\lambda</math> from 78-180° above the m.p. to room temp., for Ag, Al, Bi, Cd, Co, Mg, Pb, Sn, and Zn, were in agreement with the values calculated by <math>\lambda = a(t - t_0)</math> where <math>a</math> = mean thermal expansion coeff., <math>t</math> = m. temp., <math>t_0</math> = room temp.; deviations were greatest (5-6%) in the case of Al, Mg, and Zn. For pure metals with a face-centered cubic lattice (Ag, Al, Co, Pb) <math>\lambda = 0.65 + 0.0014 t</math>, an equation which parallels Grönwall's relation between thermal expansion and m. temp.</p>										<p><i>Q</i></p>									
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KOROL'KOV, A.M.

7

Solubility of zinc and cerium in magnesium in the solid state. A. M. Korol'kov and P. Ya. Sal'dau (Acad. Sci. U.S.S.R., Moscow). *Izvest. Sektora Fiz.-Khim. Anal., Inst. Obshchey i Neorg. Khim., Akad. Nauk S.S.S.R.* 10, No. 2, 295-306 (1948).--The point of nonvariant equil. of the system Mg-Zn-Ce is at 340-3°. Under the influence of Ce, the soly. of Zn in Mg in the solid state is lowered from 8.5% in the binary system Mg-Zn to 1.25%. Ce also hampers the aging of the alloy; at a Zn:Ce ratio of 1:1, no aging was observed. Zn and Ce when present in certain proportions are favorable for alloys of the electron

type. Most favorable was the Zn:Ce ratio 3:1 at a Zn + Ce content of 1.5-2.5%.  
M. Hosh

C.A. Vol. 44, June 15, 1950

Inst. of General and Inorganic Chem, Acad Sci USSR

<sup>1</sup>On the Expansion and the Contraction of Metals. A. M. Kord'kov (*Zhur. Lab.*, 1947, 13, (1), 66-70).—[In Russian]. From measurements of the linear contraction of pure metals it appears that the coeff. of thermal expansion ( $\alpha$ ) and the amount of the contraction ( $\lambda$ ) are related by the equation:  $\lambda = \alpha t_{\text{exp}} (t_m - t)$ , where  $t_{\text{exp}}$  = average coeff. of expansion,  $t_m$  = melting temp., and  $t$  = ordinary temp. For face-centred cubic metals (copper, silver, aluminium, lead) the amount of contraction is related to the m.p. of the metal by the equation:  $\lambda \approx 0.65 - 0.0014 t_m$ . The contraction of a number of metals (silver, aluminium, bismuth, cadmium, copper, magnesium, lead, tin, zinc) was determined experimentally on an apparatus constructed by K.

12.

A.S.M.-I.S.A. METALLURGICAL LITERATURE CLASSIFICATION





KOROL' KOV, A.M.

CA

7

Hardness of certain peritectic alloys as a function of composition, structure, and temperature. A. M. Korol'kov (Acad. Sci., S.S.S.R.). *Izv. Akad. Nauk S.S.S.R., Otdel. Tekh. Nauk* 1960, 114-23. — Brinell tests with a 5-mm. ball, 20-100 kg. load, and no holding time, were run on cast specimens of Sn: 0-40% Sb, Zn: 0-25% Ag, and Cd: 0-20% Ag alloys that had been homogenized for 8-10 hrs. at 20-5° below the solidus temp. In all instances the hardness increased in the terminal solid-soln. range, but the hardness behavior in the remainder of the diagrams was variable, probably as the result of structural effects. The microhardness at 20° and 10 g. load of the terminal solid soln. in the Zn-Ag system was 31, 47, 62, and 80 in 0, 1.0, 2.5, and 7.5% Ag alloys; that of the intermediate solid soln. was 53, 72, 87, and 95 in 12.5, 17.5, 20.0, and 25.0% Ag alloys; that of the terminal solid soln. in the Sn-Sb system was 9, 17, 20.5, 23, 26, and 30 in 0, 4.0, 8.0, 10.0, 15.0, and 20.0% Sb alloys; that of the intermediate solid soln. was 63, 68, 72, and 80 in 15.0, 20.0, 40.0, and 80.0% Sb alloys. Thus, each phase in a 2-phase peritectic mixt. changes with the av. compn. The Cd-Ag system showed the greatest effect of high temp. on hardness, and a continuous increase in hardness from 22 to 60 up to 17.5% Ag at 20° was replaced by a const. hardness of 12 from 3 to 20% Ag at 250°. In all cases the hardness in the 2-phase regions decreased faster than that of the terminal solid soln. The effect of increasing the holding time during the hardness test to 30 min. was to bring out more clearly the max. hardness at the limit of solid solv.

No. 1

A. G. Guy

Translation B-80363, 16 Nov 54

CA KOROL'KOV, A.M.

9

Dependence of microhardness of structural components on composition in several binary cast alloys. A. M. Korol'kov and E. S. Kadaner. *Doklady Acad. Nauk S.S.S.R.* 76, 271-4 (1960).—An expl. study was made to correlate the Brinell macrohardness (50 kg., 5 mm. ball) of stabilized and of homogenized alloys of Al plus 0-10% Ni, Al plus 0-10% Mn, Pb + 0-40% Sb, and Sn + 0-40% Sb with the PMT-3 microhardness (10 g.) of the primary phases and of the eutectic structure. A long time homogenizing treatment just below the solidus temp. decreased all hardness values except the microhardness of the hypereutectic primary phases which had the values Al-Ni 523-551, Al-Mn 368-380, Sb solid soln. 90-95,  $\beta'$  Sn-Sb 61.5-72. The microhardness of the primary solid solns. increased even into the 2-phase region in the alloys stabilized for about 100 hrs. at 300° (for the Al-base alloys) or at 100°, thus showing the presence of heterogeneity. The microhardness of the eutectic was above that of the primary solid soln. and remained essentially const. far into the hypereutectic region. The high hardness of the intermetallic compd. in the eutectic would have an effect when the amt. of compd. reached about 50%.  
A. G. Guy

1957 Evaluation B-78539, 8 Sep 57

KOROL'KOV A.M.

"Application of the micro-hardness method in studying  
the structural components of non-ferrous alloys"  
pp. 127 of the monograph "Microhardness", Acad. Sci. U.S.S.R., 1951

KOROL'KOV, A.M., kandidat khimicheskikh nauk; KADANER, E.S.

Anomalous cases of linear shrinkage of alloys resulting from  
changes of their composition. Issl. splav. tsvet. met. no.1:  
54-58 '55. (MLRA 9:10)

(Alloys--Metallography)

SMIRYAGIN, Aleksey Petrovich; KOROL'KOV, kandidat tekhnicheskikh nauk, retsenzent; POSTNIKOV, N.N., inzhennr, retsenzent; SHPICHINITSKIY, Ye.S., redaktor; KAMAYEVA, O.M., redaktor izdatel'stva; EVANSON, I.M., tekhnicheskiiy redaktor

[Industrial nonferrous metals and alloys] Promyshlennyye tsvetnyye metally i splavy. Izd. 2-e, perer. i dop. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1956. 559 p. (MIRA 9:7)  
(Nonferrous metals)

Category : USSR/Atomic and Molecular Physics - Liquids

D-8

Abs Jour : Ref Zhur - Fizika, No 2, 1957 No 3591

Author : Korol'kov, A.M.

Inst : Institute of Metallurgy, Academy of Sciences USSR

Title : Surface Tension of Aluminum and Its Alloys

Orig Pub : Izv. AN SSSR, Otd. tekhn. n., 1956, No 2, 35-42

Abstract : The surface tension  $\sigma$  of liquid Al and its alloys with other elements, the concentration of which varied from hundredths and thousandths of a percent to 20 — 40%, was measured by the method of maximum pressure in a bubble. The alloy temperatures exceeded the liquidus line by 50 — 80°. To prevent oxidation, the metals were molten under a flux (mixture of KCl and LiCl). The accuracy of the results was  $\pm 2.5\%$ . For Al (99.99% pure)  $\sigma = 860 \pm 20$  dyne/cm; Li, Ca, Mg, Sb, Sn, Pb, and Bi alloyed with Al have a high surface activity. The addition of Cu, Ag, Zn, Si, Cr, Mn, Fe and Ni hardly affect the value of  $\sigma$  of Al. For a constant concentration of the added metal, the surface tension of the solution diminishes with increasing size of its atom. Comparison of the " $\sigma$  vx. composition" curves with the diagrams of state of the series

Card : 1/2

Category : USSR/Atomic and Molecular Physics - Liquids

D-8

Abs Jour : Ref Zhur - Fizika, No 2, 1957 No 3591

shows that the surface-active components either have a limited solubility in the liquid state (Pb, Bi) or else form stable compounds (Li, Ca, Mg, Sb).

Card : 2/2

KOROL'KOV, Aleksey Mikhaylovich; GUDTSOV, N.T., akademik, otvetstvennyy  
redaktor [deceased]; RZHEZNIKOV, V.S., redaktor izdatatel'stva;  
POLESITSKAYA, S.M., tekhnicheskii redaktor

[Contraction phenomena in alloys and the formation of cracks during  
solidification] Usadochnye iavleniia v splavakh i obrazovanie  
treshchin pri zatverdevanii. Moskva, Izd-vo Akad.nauk SSSR, 1957.  
70 p. (Alloys) (MIRA 10:9)



KOROL'KOV, A. M.,

"Dependence of the Properties, As-Cast, of Non-ferrous alloys on their Composition and the Type of the Diagram of State," Moscow, 1958 (Dissertation presented and approved for the degree of Dr. Tech. Sci.) Acad. Sci. USSR, Inst. Metallurgy im. A. A. Baykov.

KOROL'KOV, A. M.

"The Flow of Metals and Alloys in Conduits."

Hydrodynamics of Molten Metals (Gidrodinamika rasplavlennykh metalov; trudy pervogo soveshchaniia po teorii liteinykh protsessov. Moskva, Izd-vo Akad. nauk SSSR, 1958, 257 pp.

(Proceedings of the First Conference on the Theory of Casting Processes)

Institute of Metallurgy, Academy of Sciences USSR imeni A. A. Baykov

28(1)

PHASE I BOOK EXPLOITATION

SOV/2156

Soveshchaniye po kompleksnoy mekhanizatsii i avtomatizatsii tekhnologicheskikh protsessov. 2nd, 1956.

Avtomatizatsiya mashinostroitel'nykh protsessov; /trudy soveshchaniya/, tom. 1: Goryachaya obrabotka metallov (Automation of Machine-Building Processes; Proceedings of the Conference on Over-All Mechanization and Automation of Technological Process, Vol 1: Hot Metal-Forming) Moscow, 1959. 394 p. 5,000 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Institut machinovedeniya. Komissiya po tekhnologii mashinostroyeniya.

Resp. Ed.: V.I. Dikushin, Academician: Compiler: V.M. Raskatov: Ed. of Publishing House; V.A. Kotov; Tech. Ed.: I.F. Kuz'min.

PURPOSE: The book is intended for mechanical engineers and metallurgists.

Card 1/8

Automation of Machine-Building Processes (Cont.)

SOV/2156

COVERAGE: The transactions of the Second Conference on the Over-All Mechanization and Automation of Industrial Processes, September 25-29, 1956, have been published in three volumes. This book, Vol. I, contains articles under the general title, Hot Working of Metals. The investigations described in the book were conducted by the Sections for Automation and Hot Working of Metals, under the direction of the following scientists: casting - P.N. Aksenov, D.P. Ivanov and G.M. Orlov; forming - A.I. Tselikov, A.D. Tomlenov and V.T. Meshcherin; welding - G.A. Nikolayev, B.I. Frolov and G.A. Maslov. There are 183 references: 142 Soviet, 34 English, 6 German, and 1 French.

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24(6) PHASE I BOOK EXPLOITATION SOV/2117  
 Sovetskaniye po eksperimental'noy tekhnike i metodam vysochotemperaturnykh issledovaniy, 1956

Experimental'nye tekhnika i metody issledovaniy pri vysokikh temperaturakh, trudy sovetskaniya (Experimental Techniques and Methods of Investigation at High Temperatures; Transactions of the Conference on Experimental Techniques and Methods of Investigation at High Temperatures) Moscow, AN SSSR, 1959. 789 p. (Series: Khimicheskii obozretel'skiy institut metallurgii, Komissiya po fiziko-khimicheskimi osnovam proizvodstva stali) 2,200 copies printed.

Resp. Ed.: A.M. Samarin, Corresponding Member, USSR Academy of Sciences; Ed. of Publishing House: A.I. Zhavitsky.

PURPOSE: This book is intended for metallurgists and metallurgical engineers.

CONTENTS: This collection of scientific papers is divided into six parts: 1) thermodynamic activity and kinetics of high-temperature processes; 2) constitution diagram studies; 3) physical properties of liquid metals and slags; 4) new analytical methods and production of special steels; 5) pyrometry; and 6) general questions. For more specific coverage, see Table of Contents.

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 A direct relationship between surface tension and fluidity of the alloys investigated was observed.

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 Yermenko, V.M., Yu.M. Ivashchenko, and V.I. Kishenko. Measurement of Surface Tension of Metals and Alloys by the sessile-drop Method  
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 Lepinskikh, B.M., and O.A. Yasin. Measurement of the Electrical Conductivity of Titaniferous Slags  
 Measurements were made of the electrical conductivity of the systems  $MgO-TiO_2$ ,  $FeO-TiO_2$ , and  $MnO-TiO_2$  of various compositions and at various temperatures using a Wheatstone bridge and a weak alternating current. The conductivity of the systems falls with an increase in  $TiO_2$  content, as in the case of silicates. Results indicated that conductivity is higher in the  $MnO-TiO_2$  system than in the  $FeO-TiO_2$  system, that in both of these systems it is higher than in the  $MnO-SiO_2$  and  $FeO-SiO_2$  systems, and that in the  $MgO-TiO_2$  system it is lower than in the  $MgO-SiO_2$  system.  
 Card 12/32

S/123/61/000/002/011/017  
A005/A001

Translation from: Referativnyy zhurnal, Mashinostroyeniye, 1961, No. 2, p. 3,  
# 2030

AUTHOR: Korol'kov, A. M.

TITLE: The Dependence of the Casting Properties of Non-Ferrous Metal Alloys  
on Their Composition and the Pattern of the Alloy Phase Diagrams

PERIODICAL: V sb.: "Puti uluchsheniya kachestva otlivok". Gorkiy, 1959, pp. 175-  
204

TEXT: Basing on the investigation of the set of casting properties of alloys the author shows that the choice of the optimum alloy composition is of the most importance among the numerous factors affecting the cast material quality. Particularly, it is emphasized that a quite regular correlation exists between the alloy composition, i. e., the position of the alloy in the phase diagrams, and the manifestation and number of the shrink holes. - There are 38 figures and 58 references.

Yu. Sorokin

Translator's note: This is the full translation of the original Russian abstract.

Card 1/1

80V/180-59-5-19/37

AUTHOR: Korol'kov, A. M. (Moscow)

TITLE: Viscosity of Liquid Metals

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye tekhnicheskikh nauk, Metallurgiya i toplivo, 1959, Nr 5, pp 123-126 (USSR)

ABSTRACT: Many viscosity equations are based on the assumption of a quasi-crystalline state in the liquid, and this concept agrees well with typical viscosity-vs-temperature curves. The author gives results of determinations of the viscosity of several metals and the relation of their kinematic viscosity to certain other physical properties. He used a vacuum viscometer of the oscillating-crucible type (damping of oscillations when the crucible is filled with liquid metal). The design of the instrument and method of calculation have been described by others (Refs 4, 7); latest published density values for liquid metals were used. V.G. Yudin did the experimental work. The author's and published values of absolute and kinematic viscosities for six metals at temperatures close to their melting points are given in Table 1 and the kinematic viscosities are shown as functions of temperature in Fig 1. These curves agree with some

Card  
1/2



PHASE I BOOK EXPLOITATION

SOV/4378

Korol'kov, A.M.

Liteynyye svoystva metallov i splavov (Casting Properties of Metals and Alloys)  
Moscow, Izd-vo AN SSSR, 1960. 195 p. Errata slip inserted. 3,500 copies  
printed.

Sponsoring Agency: Akademiya nauk SSSR. Institut metallurgii imeni A.A. Baykova.

Resp. Ed.: A.M. Samarin, Corresponding Member, Academy of Sciences USSR; Ed. of  
Publishing House: A.N. Chernov; Tech. Ed.: G.A. Astaf'yeva.

PURPOSE: This book is intended for scientific workers, factory laboratory work-  
ers, and process engineers in foundries.

COVERAGE: The book contains results of experimental and theoretical investiga-  
tions for establishing regularity patterns of changes in the casting properties  
of nonferrous and light metal alloys, depending on their composition and type of

Card 1/6



*KEROLLEY, H.M.*

PHASE I BOOK EXPLOITATION

SOV/4343

Soveshchaniye po teorii liteynykh protsessov, 3d

Usadochnyye protsessy v metallakh; trudy soveshchaniya (Shrinkage Processes in Metals; Transactions of the Third Conference on the Theory of Casting Processes) Moscow, AN SSSR, 1960. 281 p. Errata slip inserted. 3,000 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Institut mashinovedeniya. Komissiya po tekhnologii mashinostroyeniya.

Resp. Ed.: B.B. Gulyayev, Doctor of Technical Sciences, Professor; Ed. of Publishing House: V.S. Rzhiznikov; Tech. Ed.: T.V. Polyakova.

PURPOSE: This collection of articles is intended for scientific workers, engineers, technicians of scientific research institutes and industrial plants, and for faculty members of schools of higher education.

COVERAGE: The collection contains technical papers presented at the Third Conference on the Theory of Casting Processes, organized by Liteynaya sektsiya Komissii po tekhnologii mashinostroyeniya Instituta mashinovedeniya AN SSSR (Casting Section of the Commission for Machine-Building Technology of the Institute of Science of Machines, Academy of Sciences USSR) and by Institut metallurgii imeni Baykova  
Card 1/6

Shrinkage Processes (Cont.)

SOV/4343

AN SSSR (Institute of Metallurgy imeni A.A. Baykov, Academy of Sciences USSR). The most serious defects in castings, ingots, and welds as a result of metal shrinkage are reviewed. Factors contributing to the formation of shrinkage cavities, porosity, cracks, fissures, distortion, and internal stresses are analyzed along with measures taken to prevent and remedy them. The hydrodynamics of molten metals and the process of solidification of metals are discussed. Also presented are resolutions adopted at the Conference with regard to the problem of shrinkage in metals. No personalities are mentioned. Most papers are accompanied by bibliographic references, the majority of which are Soviet.

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Shrinkage Processes (Cont.)

SOV/4343

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VK/wrc/sfm  
11-16-60

S/081/60/000/020/003/014  
A006/A001

Translation from: Referativnyy zhurnal, Khimiya, 1960, No. 20, p. 83, # 80426

AUTHORS: Korol'kov, A.M., Bychkova, A.A.

TITLE: Surface Tension of Metals and Alloys <sup>18</sup>

PERIODICAL: V sb.: Issled. splavov tsvetn. metallov, 2. Moscow, AN SSSR, 1960, pp. 122-134

TEXT: The method of maximum pressure in an Ar vial was used to measure with an accuracy of 2-3% the  $\sigma$ -values of a series of pure (99.99% for Al and Sb) non-ferrous metals at a temperature elevated by 50-60°C beyond the melting point. The results obtained are: <sup>18</sup>Al 860, <sup>18</sup>Bi 380, <sup>18</sup>Ga 725, <sup>18</sup>Mg 515, <sup>18</sup>Sn 526, <sup>18</sup>Pb 410, <sup>18</sup>Sb 395 and <sup>18</sup>Zn 750 dyne/cm. The  $\sigma$ -composition dependence was studied for a series of binary and ternary Al- and Zn-base alloys. ✓

S.Z.

Translator's note: This is the full translation of the original Russian abstract.

Card 1/1

S/180/60/000/005/023/033  
E021/E106

AUTHORS: Korol'kov, A.M., and Pronin, N.A. (Moscow)

TITLE: The Structure of Supercooled Eutectic Alloys

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye tekhnicheskikh nauk, Metallurgiya i toplivo, 1960, No.5, pp.181-185

TEXT: The aim of the investigation was to establish the controlling factors in the appearance of a spheroidal structure on the fast-cooled surfaces of aluminium-silicon and aluminium-copper alloys. Samples of various compositions were poured on to a polished cast iron plate heated to various temperatures. The specimens were 15-30 mm in diameter and 5-10 mm thick. The under-side surface was then examined under the microscope without polishing. The temperature of the liquid alloy was  $100 \pm 5$  °C above the liquidus of the alloy. A typical spheroidal structure is shown (Fig.1). The results showed that in both alloy systems, the alloys near to the eutectic compositions gave a spheroidal structure with the least drop in temperature from the liquid alloy to the cooling surface. Thus for the eutectic aluminium-silicon alloys this difference was 27 °C and for the eutectic

Card 1/2

S/180/60/000/005/023/033  
E021/E106

The Structure of Supercooled Eutectic Alloys

aluminium-copper alloys it was 148 °C. With smaller temperature drops, the spheroidal structure was not found. As the alloy composition moves away from the eutectic, higher degrees of supercooling are required to produce the spheroidal structure.. The aluminium-silicon alloys supercooled more easily than the aluminium-copper alloys. This was explained by the fact that the aluminium-silicon alloys were more easily modified. There are 4 figures, 2 tables and 7 Soviet references.

SUBMITTED: March 2, 1960

Card 2/2



S/123/61/000/006/017/020  
A004/A104

AUTHOR: Korol'kov, A. M.

TITLE: Shrinkage processes in alloys in connection with their phase diagram

PERIODICAL: Referativnyy zhurnal, Mashinostroyeniye, no. 6, 1961, 2, abstract  
6G12 (V sb. "Usadochn. protsessy v metallakh", Moscow, AN SSSR,  
1960, 41-49).

TEXT: The author investigates the regularities of changes of casting shrinkage tendency to crystallization cracks and distribution of shrinkage porosity if the composition of foundry alloys is changed. It was found that shrinkage phenomena are directly connected with the kind of phase diagram of the alloys: alloys solidifying within a great temperature range under difficult shrinkage conditions tend to form hot cracks, while a difficult shrinkage of pure metals and alloys with a narrow temperature range of solidification is realized in the form of plastic deformation. It is shown that in alloys solidifying at constant temperatures centered shrinkage cavities originate, while alloys with a wide temperature range show a scattered shrinkage porosity. Yu. Stepanov

[Abstractor's note: Complete translation]

Card 1/1

KOROL'KOV, A.M. (Moskva)

Connection between metal and alloy properties in solid and  
liquid states. Izv. AN. SSSR. Otd. tekhn. nauk. Met. i topl.  
no.3:146-147 My-Je '61. (MIRA 14:7)  
(Liquid metals) (Alloys)

S/180/61/000/006/009/020  
E021/E135

AUTHORS: Korol'kov, A.M., and Igumnova, A.A. (Moscow)  
 TITLE: The surface tension of intermetallic compounds  
 PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye tekhnicheskikh nauk. Metallurgiya i toplivo, no.6, 1961, 95-99  
 TEXT: The surface tension of alloy systems with phase diagrams forming chemical compounds was investigated. The initial materials had the following purity: Al - 99.99; Bi - 99.98; Cd - 99.95; Mg - 99.91 (0.06 Fe + Si); Pb - 99.99; Sb - 99.15 (0.7% Pb); Sn - 99.9; Te - 99.4 (0.25 Pb, 0.16 R<sub>2</sub>O<sub>3</sub>); Zn - 99.94-99.99%. The results of the surface tension measurements are shown in the table. The surface tension of the intermetallic compounds is usually less than that of the components (e.g. Mg<sub>2</sub>Sn) or equal to that of the component with the lower value (e.g. Sb<sub>2</sub>Te<sub>3</sub>). The composition - surface tension diagram has either a minimum or a point of inflexion at the composition corresponding to the compound. This indicates that compounds are surface active in relation to both the components and these compounds are of the normal valency type Mg<sub>2</sub>Me, or are surface

Card 1/2

S/180/62/000/001/006/014  
E039/E520

18.6/100

AUTHORS: Korol'kov, A.M. and Shashkov, D.P. (Moscow)  
TITLE: The electrical resistivity of some alloys in the liquid state  
PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye tekhnicheskikh nauk. Metallurgiya i toplivo, no.1, 1962, 84-88  
TEXT: While the structure of metals and alloys and their properties in the solid state have been studied extensively, the properties of liquid metal solutions have not. It is known from theory that in both the liquid and solid state short range order exists. Pure metals show an increase in electrical resistivity on heating and a marked jump on melting. The latter is due to the breakdown of the crystal lattice with a consequent loss of long range order. This paper describes the investigation of a number of alloys in the liquid state for which structural diagrams indicate both the absence of any appreciable mutual solubility of the components in the solid state (Al-Sn) as well as the existence of such solubility (Al-Cu; Pb-Sn; Al-Si; Al-Ge;  
Card 1/2

The electrical resistivity of ...

S/180/62/000/001/006/014  
E039/E520

Al-Zn; Al-Ag and Bi-Sn alloys). The electrical resistivities,  $\rho$ , were measured by an electrodeless method. In the Al-Sn alloy the composition  $\sim \rho$  diagram obeys the additive law, as for eutectics in the solid state. Some alloys show a clear correlation between composition  $\sim \rho$  curves and their structural diagrams. For example, in the alloy Al-Cu the maximum which occurs on the 750°C isotherm corresponds to the limit of solubility of copper in aluminium. Similar phenomena have also been observed for Pb-Sn alloys. The jump in the resistivity during fusion of alloys which crystallize within a large temperature interval is observed at temperatures at which the liquid-solid mixture contains at least 50% of the liquid phase which corresponds to the continuous nature of the mixture. No jump at all was observed in the resistivity during fusion of some eutectic alloys, whose components have conductivity jumps of opposite signs during fusion (Bi-Sn; Bi-Pb). There are 5 figures.

SUBMITTED: May 18, 1961

X

Card 2/2

37939  
S/137/62/000/005/001/150  
A006/A101

18.7540

AUTHORS: Korol'kov, A. M., Yudin, V. G.

TITLE: On the connection between viscosity of liquid metals with their atomic volume and entropy

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 5, 1962, 7, abstract 5A43 (V sb. "Fiz.-khim. osnovy proiz-va stali", Moscow, AN SSSR, 1961, 347-353)

TEXT: The value of kinematic viscosity  $\nu$  of a number of metals near the melting point can be established from equation  $\nu = K (1/V)$ , where  $K$  is a constant, equal to 4 - 5,  $V$  is the specific volume. Values  $\nu$  of a number of metals, calculated from this equation, are in a satisfactory agreement with experimental data. In such a manner, the resistance to displacement of some liquid metal particles in respect to adjacent ones, is the lesser, the higher the distances between their centers. Alkaline metals and Mg are exceptions; their experimental  $\nu$  values exceed the calculated ones; this is due to the structure or greater oxidizability of these metals which cannot be overcome during the experiments. It is shown that the higher  $\nu$ , the lower the magnitude of entropy, i.e.

Card 1/2

On the connection between viscosity ...

S/137/62/000/005/001/150  
A006/A101

the weaker the disordering of atoms during heating. It is experimentally shown that on composition-viscosity diagrams for systems Al-Cu, Al-Si, Al-Fe, Al-Mn, and Zn-Sn, a  $\nu$  minimum is characteristic for the eutectic point. It is assumed that the reduced  $\nu$  value for eutectics is connected with the prevalence of bonds between similar, but not between dissimilar atoms. It is possible that the atomic volume of eutectics is greater than that of adjacent alloys, due to the minimum melting point of eutectics. This phenomenon is also explained by changes in entropy, since entropy values of melting eutectics will always be higher than those of components and adjacent alloys, due to the minimum melting point of eutectics.

P. Arsent'yev

[Abstracter's note: Complete translation]

Card 2/2

KOROL'KOV, A.M.; SHASHKOV, D.P.

Electric conductivity of certain liquid metals and alloys. Issl.  
splav. tsvet. met. no.3:126-135 '62. (MIRA 15:8)  
(Liquid metals--Electric properties)  
(Alloys--Electric properties)

88100

45227

S/806/62/000/003/011/018

AUTHORS: Korol'kov, A. M., Shashkov, D. P.

TITLE: Electrical conductivity of some liquid metals and alloys.

SOURCE: Akademiya nauk SSSR. Institut metallurgii. Issledovaniye splavov tsvetnykh metallov. no.3. 1962, 126-135.

TEXT: Following a thorough survey of existing literature on the phenomenon of electrical conductivity in solid and liquid metals and the various structural and other factors affecting it, the paper describes the results of an experimental investigation of binary alloys of a eutectic type based on Al and Pb (composition and purity of components tabulated). The investigation was conducted by A. R. Regel's rotating-magnetic-field method (ZhTF, v.18, no.12, 1948); its accuracy is  $\pm 5\%$ . A relatively simple variation of specific resistance (SR) versus composition, with a shallow depression in the vicinity of the eutectic point, obtains with those Al alloys, e.g., Al-Si and Al-Ge, in which there is no formation of chemical compounds. Si reduces the conductivity of liquid Al significantly near the eutectic point. In Al-Cu alloys, in which an Al-based solid solution and an intermetallic  $Al_2Cu$  compound exists, the SR increases with an addition of Cu to the Al, attains a maximum at 5.7% Cu, and, with Cu more than 10%, drops to less than the SR of pure Al. The Al-Ag alloys, both at  $800^\circ C$  and at ( $t_{liq} + 100^\circ$ ), exhibit a unique drop in SR with the addition of Ag. Ag-Zn alloys have a  $t_{liq}$  slightly depressed SR with 10% Zn, but the SR rises again

Card 1/2



Electrical conductivity of some liquid metals ...

S/806/62/000/003/011/018

with increasing Zn content until, with 40% Zn, the SR of pure Al is equaled. Thus it appears that various alloys retain in different measure their crystalline lattice even during fusion, so that a varying measure of weakening of the mobility of the current carriers obtains. This is confirmed by the high value of the temperature coefficient of the SR of liquid Al-Cu alloys corresponding to the solid-solution concentration (up to 5.7% Cu), some 2.5-2.7 times greater than for other alloys. The investigation further reveals that the SR of alloys that solidify over a large T interval have their SR jump neither at the solidus nor at the liquidus T, but at T's that lie on a line about midway within that interval, at points at which, apparently, the liquid isolates the crystals from direct mutual contact; this phenomenon was observed on Pb-Sn, Al-Cu, Bi-Pb, and other alloys. Another significant observation is that, in Bi-Pb and Bi-Sn lying between the eutectic point and pure Bi, in both the solid and liquid states the SR changes with T in the same manner as does pure Bi, but the increase in SR with T up to the m.p. decreases with an increase in Pb and Sn in the alloy. The magnitude of the SR, also, decreases until there is no more SR jump left at the eutectic point. Thus, the alloying elements lead to a loss of the inherent properties of the Bi. There are 7 figures, 2 tables, and 17 references (14 Russian-language Soviet, 1 Russian translation of the "Encyclopedia of Metal Physics," 1937, and 2 German).

ASSOCIATION: None given.

Card 2/2

S/279/63/000/001/008/023  
E039/E451

AUTHORS: Korol'kov, A.M., Shashkov, D.P. (Moscow)

TITLE: The temperature dependence of the electrical conductivity of some alloys

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye tekhnicheskikh nauk. Metallurgiya i gornoye delo. no.1, 1963, 105-108.

TEXT: . A series of binary and tertiary alloys was examined to determine the temperatures and compositions of alloys at which a sudden increase in conductivity occurred on melting, in comparison with a further series of alloys which did not show a sudden increase. The observations confirm that the conductivity jump occurs in eutectic alloys (e.g. Al - Zn) when the amounts of solid and liquid phases are equal, that is when the crystals lose contact with each other and are isolated by liquid. Similar conductivity jumps are observed in eutectic alloys such as Al-Si, Al-Cu, Cd-Bi etc and also for continuous solid solution alloys (Sb-Bi system). Alloys with concentrations close to the eutectic also show a conductivity jump at the eutectic temperature. This effect is absent in systems which include "semimetals" (Bi, Sb, Ga)  
Card 1/2

The temperature dependence ...

S/279/63/000/001/008/023  
E039/E451

e.g. Bi-Cd, Bi-In, Pb-Sb alloys. In this case the conductivity jump disappears at eutectic concentrations. Similar behavior is observed for tertiary alloys containing a "semimetal" component (Pb-Sn-Bi, Pb-Sn-Sb). No conductivity jump is present for eutectic alloys with strongly chemically reacting components (Cu-Sb, Mg-Ga). A possible reason for these anomalous changes in conductivity may be a mutual compensation of current carriers on melting. The process is evidently also connected with the complex changes of volume for alloys composed of components with opposite volume changes on melting. These results are of definite interest for developing a theory of alloys and a physical theory for the liquid  $\rightleftharpoons$  solid transition. There are 3 figures and 1 table.

SUBMITTED: September 24, 1962

Card 2/2